SAMPLE WHITE PAPERS

CONTROL STRATEGY
WORKGROUP

ST. LOUIS, MO

JANUARY 7, 2005

FOUR WHITE PAPERS

- ELECTRIC GENERATING UNITS
- ARCHITECTURAL AND INDUSTRIAL MAINTENANCE COATINGS
- CONSUMER AND COMMERCIAL PRODUCTS
- PORTABLE FUEL CONTAINERS

SOURCES FOR INFORMATION

- MIDWEST REGIONAL PLANNING ORGANIZATION
- LAKE MICHIGAN AIR DIRECTORS CONSORTIUM (LADCO)
- MACTEC – Contracted Consultant
- Final Versions - http://ladco.org/

ELECTRIC GENERATING UNITS

- SO_2 Control Measures
  - 2009 On-the-Way Proposed Measures:

    CAIR (46% Reduction from 2002 level)
  - Candidate Control Measure 1:

    Adopt STAPPA/ALAPCO Emission

    Cap Based on "Retrofit SO_2 BACT Level" of 0.15 lbs/mm BTU

    Control Efficiency: 66% in 2009;

    86% by 2013

    Control Cost: $470 to $605 per ton

EGU SO_2 Control Measures

– Candidate Control Measure 2:

Adopt STAPPA/ALAPCO Emission Cap Based on "SO_2 BACT Level for New Plants" of 0.10 lbs/mm BTU

Control Efficiency: 77% in 2009;

90% by 2013

Control Cost: $470 to $605 per ton

ELECTRIC GENERATING UNITS (Cont'd)

- NO_x Control Measures
  - 2009 On-the-Way Proposed Measures:

    NO_x SIP Call and CAIR (21% Reduction from 2002 level)
  - Candidate Control Measure 1:

    Adopt STAPPA/ALAPCO Emission

    Cap Based on "Retrofit NO_x BACT Level" of 0.10 lbs/mm BTU

    Control Efficiency: 62% in 2009; 75% by 2013
    Control Cost: $2,873 to $4,156 per ton

EGU NO_x Control Measures

– Candidate Control Measure 2:

Adopt STAPPA/ALAPCO Emission Cap Based on "NO_x BACT Level for New Plants" of 0.07 lbs/mm BTU

Control Efficiency: 69% in 2009;

82% by 2013

Control Cost: $2,873 to $4,156 per ton

EGU CANDIDATE CONTROL MEASURES

- Emission Control Technologies
  - Fuel Treatment/Substitution
  - Combustion Modification
  - Postcombustion Control
- Improved Generation Technologies
- Demand Reduction/Energy Efficiency
- Clean Power

ARCHITECTURAL AND INDUSTRIAL MAINTENANCE COATINGS (AIM)

- VOC Control Measures
  - Candidate Control Measure 1: Adopt OTC Model Rule with more stringent limits
  - *Emission Reductions:* 31% beyond Federal AIM Rule (44.8% from uncontrolled emissions)
  - *Control Cost*: $6,400 per ton
  - *Implementation:* Full reductions by 2010 with 2007 effective date and three year sell-through

AIM CANDIDATE CONTROL MEASURES

- Candidate Control Measure 2:
  - Adopt Rule with even more stringent limits
  - *Emission Reductions:* 51% beyond OTC Model Rule (73% from uncontrolled emissions)
  - *Control Cost*: $20,000 per ton
  - *Implementation:* Full reductions by 2010 with 2007 effective date and three year sell-through

CONSUMER AND COMMERCIAL PRODUCTS

- 2002 Existing Measure: Federal Consumer and Commercial Products Rule (40 CFR Part 59
  - *Emission Reductions*: 9.7% overall from uncontrolled level (20% reduction from covered products, only 48.6% of all products are covered)
  - *Control Costs:* $237 per ton
  - *Implementation:* Compliance by 12/1998

CONSUMER AND COMMERCIAL PRODUCTS

- Candidate Measure 1: Adopt OTC Model Rule with additional product coverage and more stringent VOC limits
  - *Emission Reductions*: 14.2% beyond Federal Rule for a total of 22.5% from uncontrolled emissions
  - *Control Cost*: $800
  - *Implementation:* Full reductions by 2010 with 2007 effective date and three year sell-through

CONSUMER AND COMMERCIAL PRODUCTS

- Candidate Measure 2: Adopt CARB 2003 SIP requirements with additional product coverage and more stringent VOC limits in addition to OTC Model Rule
  - *Emission Reductions*: 12.5% beyond OTC Model Rule for a total of 32.2% from uncontrolled emissions
  - *Control Cost*: $4,800
  - *Implementation:* Full reductions by 2010 with 2007 effective date and three year sell-through

PORTABLE FUEL CONTAINERS (PFC)

- Candidate Measure1: Adopt OTC Model Rule for PFCs
  - *Emission Reductions*: 65% from uncontrolled emissions; 10% turnover per year
  - *Control Cost*: $450 per ton
  - *Implementation*: Full reductions in 2016 with 2007 effective date and 10% per year turnover

PORTABLE FUEL CONTAINERS (PFC)

- Candidate Measure 2: Adopt Incentive Program to Accelerate Phase-In of Compliant PFCs
  - *Emission Reductions*: 65% from uncontrolled emissions; 15% turnover per year
  - *Control Cost*: $1,062 per ton
  - *Implementation*: Full reductions in 2013 with 2007 effective date and 15% per year turnover

COMPARISON OF ST. LOUIS AND MIDWEST RPO CONTROL STRATEGIES

- PURPOSE: IDENTIFY CONTROL STRATEGIES REQUIRING WHITE PAPERS
- SEE "*DRAFT ST.LOUIS CONTROL STRATEGY MATRIX*" *(JANUARY 2005)* AND "*PRIORITIZED LIST OF MIDWEST RPO CANDIDATE CONTROLS*"